

**CLAIMS:**

1. A photocurable composition, comprising:
  - (a) at least one photocurable monomer;
  - (b) reactive particles comprising a crosslinked elastomeric core and a shell of reactive groups on an outer surface of the core, wherein the reactive groups comprise epoxy groups, ethylenically unsaturated groups, or hydroxy groups; and
  - (c) a photoinitiator for polymerization of the monomer.
2. A photocurable composition as claimed in claim 1, wherein the at least one photocurable monomer comprises a cationically curable monomer and the photoinitiator comprises a cationic photoinitiator.
3. A photocurable composition as claimed in claim 1, wherein the at least one photocurable monomer comprises a radically curable monomer and the photoinitiator comprises a radical photoinitiator.
4. A photocurable composition as claimed in claim 1, comprising:
  - (a) a cationically curable monomer;
  - (b) a radically curable monomer;
  - (c) reactive particles comprising a crosslinked elastomeric core and a shell of reactive groups on an outer surface of the core, wherein the reactive groups comprise epoxy groups, ethylenically unsaturated groups, or hydroxy groups;
  - (d) a radical photoinitiator; and
  - (e) a cationic photoinitiator.
5. A composition as claimed in any one of claims 1 to 4, wherein the core comprises a crosslinked polysiloxane material.

6. A composition as claimed in claim 5, wherein the core comprises dialkylsiloxane repeating units.
7. A composition as claimed in claim 6, wherein the core comprises dimethylsiloxane repeating units.
8. A composition as claimed in any one of claims 1 to 4, wherein the core comprises a polybutadiene material.
9. A composition as claimed in any one of claims 1 to 8, wherein the reactive groups comprise epoxy groups.
10. A composition as claimed in claim 6, wherein the reactive particles comprise Albidur EP 2240, Albidur EP 2640, Albidur EP 5340, or Albiflex 296.
11. A composition as claimed in any one of claims 1 to 7, wherein the reactive groups comprise ethylenically unsaturated groups.
12. A composition as claimed in any one of claims 1 to 11, wherein the reactive particles comprise Albidur VE 3320 or Albiflex 712.
13. A composition as claimed in any one of claims 1 to 10, wherein the reactive groups comprise hydroxyl groups.
14. A composition as claimed in claim 13, wherein the reactive particles comprise Albidur PU 5640.

15. A composition as claimed in any one of claims 1 to 14, wherein the reactive particles have an average particle diameter of from 0.01 and 50  $\mu\text{m}$ .

16. A composition as claimed in any one of claims 1 to 15, wherein the reactive particles are capable of reacting substantially completely to form chemical bonds to a polymer matrix that is formed on curing the photocurable composition.

17. A composition as claimed in claim 1 to 16, wherein the photocurable monomer (a) comprises a polyepoxide.

18. A composition as claimed in claim 17, wherein the photocurable monomer (a) comprises an alicyclic polyepoxide.

19. A composition as claimed in claim 18, wherein the alicyclic polyepoxide has monomer purity of over about 94 %.

20. A composition as claimed in any one of claims 1 to 19, wherein the photocurable monomer (a) comprises a poly(meth)acrylate.

21. A composition as claimed in claim 20, wherein the photocurable monomer comprises a poly(meth)acrylate having a hydroxy group.

22. A composition as claimed in claim 20, wherein the photocurable monomer (a) comprises a mono- or di(meth)acrylate and a poly(meth)acrylate containing at least three (meth)acrylate groups.

23. A composition as claimed in any one of claims 1 to 22, further comprising a polyether polyol.

24. A method comprising:
- (1) forming a first layer of the photocurable composition of any one of claims 1 to 23;
  - (2) exposing the first layer to actinic radiation sufficient to harden the first layer;
  - (3) forming a second layer of the photocurable composition of claim 1 above the hardened first layer;
  - (4) exposing the second layer to actinic radiation sufficient to harden the second layer; and
  - (5) repeating steps (3) – (4) as needed to form a 3-D object.
25. A method as claimed in claim 24, further comprising a step of postcuring the 3-D object.
26. A method as claimed in claim 24 or 25, wherein the first and second layers are formed by jet deposition or by the surface layer of a bath of the photocurable composition.
27. A 3-D object, prepared by the method of any one of claims 24 to 26.
28. The 3-D object of claim 27, wherein the 3-D object is opaque.
29. Use of the composition of any one of claims 1 to 23 for forming, when cured, adhesives, photoimageable coatings, coatings for optical fibers, 3D objects by printing or jetting, paints, powder coatings, solder masks, or photoresist masks.